

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 March 2005 (24.03.2005)

PCT

(10) International Publication Number
WO 2005/025847 A1

(51) International Patent Classification⁷: **B30B 9/16**,
9/12, B01D 29/82

(21) International Application Number:
PCT/IT2003/000547

(22) International Filing Date:
12 September 2003 (12.09.2003)

(25) Filing Language: Italian

(26) Publication Language: English

(71) Applicant (for all designated States except US): **INTERNATIONAL PRESSES MANUFACTURING IPM S.R.L.** [IT/IT]; 6/A, Via P. Artusi, I-47034 Forlimpopoli (Forli Cesena) (IT).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **BABBINI, Lionello, Morando** [IT/IT]; 1, Via Aldo Moro, I-47010 Galeata (Forli Cesena) (IT).

(74) Agents: **CORRADINI, Corrado et al.**; Via Dante Alighieri, 4, I-42100 Reggio Emilia (IT).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

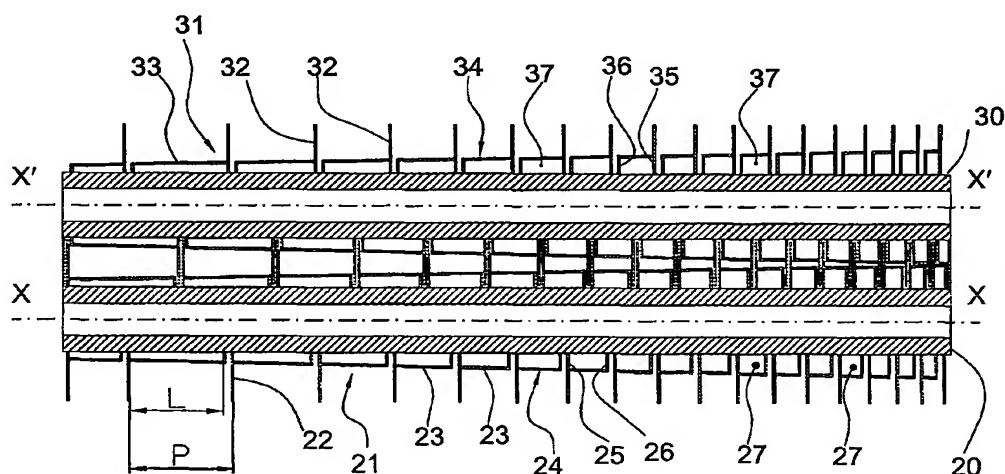
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,

[Continued on next page]

(54) Title: **SCREW PRESS FOR SQUEEZING OUT FIBROUS MATERIAL**



(57) Abstract: A screw press (1) for pressing fibrous material, in particular sugar beet pulp, comprising: - a pair of adjacent counter-rotating shafts (20, 30) having their axes (X-X, X'-X'), disposed parallel to each other, said shafts (20, 30) each being provided externally with a helical structure winding in the opposite direction to the helical structure of the other shaft; - a perforated walled filtering cage (4) enclosing said helical structures (21, 31) as an exact fit; - a loading hopper (10) for feeding the fibrous material to the press (1); - a discharge aperture (11) for the exit of the pressed material; - a collection sump (12) positioned externally to said filtering cage (4); in which each box-like helical structure (21, 31) comprises a helix (22, 32) and a helical element (23, 33), comprising at least one perforated surface (24, 34) and forming a helical interspace (27, 37) with the outer surface of the shaft (20, 30), said perforated surface (24, 34) having a length (L) along the axis (X-X, X'-X') of the shaft (20, 30) which at every point is less than the pitch (P) of the helix (22, 32) by an amount sufficient to receive the helix (32, 33) of the adjacent shaft (30, 20).



MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

— with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— with international search report